

A BRUTAL WAY TO CLEAN INSECTS.

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At some time or another, everyone of us has had to cope with the ravages of mold in collections. Mold *always* attacks the most interesting specimens and ruins them for study. It is possible to try to clean them, but in general, soft-bodied insects are beyond redemption. Brushing the wings of Lepidoptera is not to be recommended—they never look the same. Delicate Diptera are gone past hope. But hard-bodied insects withstand rougher treatment and with them it is possible to get rid of the bulk of the moldy whiskers. The mold-plague struck me in a big way as a result of the dampness caused by the flooding of my basement study by a cloudburst two years ago. Very many bugs were badly molded and covered with the usual tangle of long micelia and spores. Several ways of cleaning them, such as washing in benzene or in carbon tetrachloride (CCl_4), were tried with moderate results. Finally, as a desperate drastic measure, a few hard-bodied forms were subjected to brutal treatment, with astonishingly good results.

The bugs were put into strong—*saturated*—solution of a commercial washing powder (sold as "Oakite"), on a kill-or-cure principle. The results were fine! The strong alkaline solution (trisodium phosphate with a little soda-ash) ate away all the mold, or softened it so it could be cleaned off by means of a fine sable brush (#0 or #00). Later straight trisodium phosphate was used in place of Oakite. The insects are left in the solution anything up to 24 hours, and any adhering remnants of mold are washed off with the solution by means of the brush. The insects are then put into a large quantity of clear water (say a pint) and left in this for an hour or more, until the alkali is removed. At this point, on taking out of the water, any remnants of mold are removed and the insect is thoroughly rinsed in clear water. It is then put on a good absorbent blotting paper, or on filter paper, which is better, and when the surplus water disappears, it is pinned and allowed to dry thoroughly before being put back in its proper box.

It is well to have plenty of naphthalene in the box. It has been found in the excessive moisture-content of the air in British India that this chemical in abundance in boxes prevents the growth of mold.

No fear of breaking off delicate legs or antennae need be experienced. The water holds them up at first and cushions them; and later, the insect is completely softened and pliable.

One good—and unexpected—result is that insects appear to be thoroughly degreased by this treatment. On the other hand, occasionally the fats turn gray on the surface of the insect. However, as a moldy insect is a lost insect, its recovery, even if slightly discolored, is better than no insect, especially if it is a rare specimen. Structures do not seem to be clouded by this film, even though color is obscured.

Warning: Proceed very cautiously with soft-bodied bugs or beetles, especially in the former such things as delicate Miridae and the minute Anthocoridae. But if these seem beyond help and useless, try it. Insects glued on points come off, so it is well to be careful not to soak together lots of insects on points from different localities—you are sure to be lost if you do. In fact, do not put in to clean more specimens than you will have time for when they come out of the cleaner.

Do not leave either in the solution or in plain water over 24 hours—insects decay rapidly under these conditions, especially in hot weather.

And for the last point, put the specimens in, pins, labels, and all. Labels are beautifully clean and bleached when they come out of the wash; and pins are bright (except steel pins). But be sure *not* to put in labels other than printed labels or labels written in water-proof ink. Any other ink is washed off.

In conclusion, desperate diseases need desperate cures. A bug that is ruined by mold may be saved and beautified from this treatment. If the treatment does not succeed, the insect was gone, anyhow; and nothing is lost by trying.

Butterfly Collecting Records.—*Incisalia polios* Cook & Watson. Abundant on Wolf Hill in the Helderberg Mountains, 12 miles west of Albany, N. Y. The first was taken on May 2, 1938, at an elevation of approximately 1600 feet, where its foodplant, *Arctostaphylos uva-ursi* Cockerell, is widespread.

Poanes yehl Skinner. Locally common in the marsh along both of U. S. Highway 17, just beyond the bridge over the Perquimans River north of the town of Hertford, No. Car. Twenty males and two females were taken in one hour's stop, on July 15, 1941.—A. C. FREDERICK, Albany, N. Y.